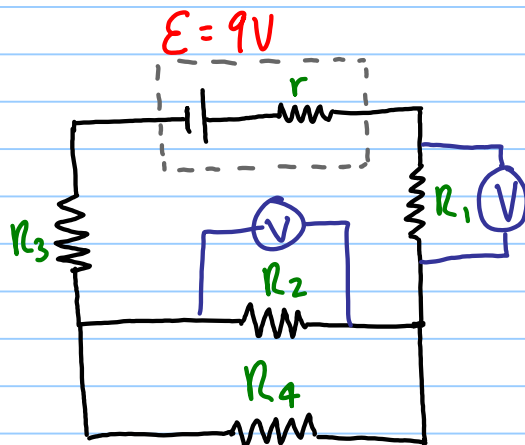


a.) What is the internal resistance, r ?

b.) What is the terminal voltage?

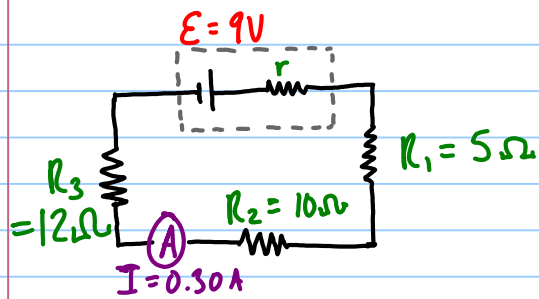


A fourth resistor is added to the circuit as shown. What happens to

c.) The voltage drop across R_1 ?

d.) The voltage drop across R_2 ?

e.) The terminal voltage?



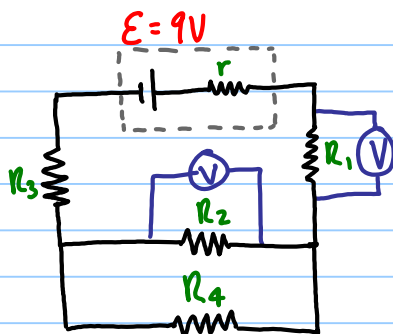
a) What is the internal resistance, r ?

b) What is the terminal voltage?

$$a) \quad \mathcal{E} = I_T R_T \quad R_T = \frac{\mathcal{E}}{I_T} = \frac{9V}{0.30A} = 30\Omega$$

$$r = R_T - R_1 - R_2 - R_3 = 3\Omega \quad \checkmark$$

$$b.) \quad V_{\text{term}} = \mathcal{E} - I r = 9V - (0.30A)(3\Omega) = 8.1V \quad \checkmark$$



A fourth resistor is added to the circuit as shown. What happens to

c.) The voltage drop across R_1 ?

d.) The voltage drop across R_2 ?

e.) The terminal voltage?

c.) increase \checkmark

d.) decrease \checkmark

e.) decrease \checkmark